

POKACHEV, I.

Improved disk-type cutters. Biul. tekhn. inform. po stroi. 5
no.5:25 My '59. (MIRA 12:8)
(Woodworking machinery)

L 34098-65 EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 WH/BM
 ACCESSION NR: AP5007428 5/0286/65/000/004/0061/0061

AUTHOR: Pokachevskaya, O. P.; Volokhina, A. V.; Kudryavtsev, G. I. 41/6

TITLE: Preparative method for heat-resistant polyamides. Class 39, No. 168434 16

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 4, 1965, 61

TOPIC TAGS: polyamide, heat resistant polyamide, lactam

ABSTRACT: An Author Certificate has been issued for a preparative method for heat-resistant polyamides based on hexahydro-p-aminobenzolactam. In order to increase the molecular weight of the polyamides and give them fiber-forming properties, this lactam is copolymerized with other lactams, such as ϵ -caprolactam or ϵ -enantholactam. [SM]

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut iskustvennogo volokna
 (All-Union Scientific-Research Institute of Man-Made Fibers)

SUBMITTED: 28Feb63

ENCL: 00

SUB CODE: OC,CC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 3210

Card 1/1

POKACHOV, I.O., inzh.

Mechanical jointer for assembling window crosses. Biul. tekhn.
inform. 5 no.3:26-27 Mr '59. (MIRA 12:7)
(Windows)

POKACHEV, I.O., inzh.

Automatic flow lines for sawing parquet border staves. Biul.
tekh.inform.po stroi. 5 no.9:26-27 S '59. (MIRA 12:12)
(Parquet floors)

POKALEV, G.M.; MOROZOVA, L.N.; SANDLER, R.I.

Dynamics of the protein spectrum of the blood during acupuncture. Sbor. trud. GMI no.9:137-141 '62.

(MIRA 17:2)

1. Kafedra gospi'tal'noy terapii Gor'kovskogo meditsinskogo
instituta imeni S.M. Kirova (zav. kafedroy prof. V.G. Vogralik.)

POKALEV, G.M.; AGEYEVA, N.M.; SANDLER, R.I.

Dynamics of the coagulation indices of the blood in acupuncture. Sbor. trud. GMI no.9:142-147 '62.

(MIRA 17:2)

1. Kafedra gospiatal'noy terapii Gor'kovskogo meditsinskogo instituta (zav. kafedroy prof. Vograalik) i Oblastnaya stantsiya perelivaniya krovi (dir. - Klimova, N.Ya.), Gor'kiy.

POKALEV, G.M.; PAROKHONYANK, Z.M.; KLEMENOV, V.I.; KOMAROVA, M.A.;
OKINA, L.I.

Dynamics of the mechanical activity of the heart under the
influence of acupuncture in the area of the Chinese points.
Sbor. trud. GMI no.9:108-114 '62. (MIRA 17:2)

1. Kafedra gospi'tal'noy terapii lechebnogo fakul'teta
Gor'kovskogo meditsinskogo instituta (zav. kafedroy prof.
V.G. Vogra'lik).

POKALOV, G.M.

Botkin's cutaneocardiac reflex and variability of heart size. Terap.
arkh. 28 no.4:36-40 '56. (MIRA 9:9)

1. Iz kliniki gosspital'noy terapii (dir. prof. V.G.Vogralik) Gor'kov-
skogo meditsinskogo instituta imeni S.M.Kirova.

(HEART, physiol.

size, Abrams' heart reflex)

(REFLEX

Abrams' heart reflex)

POKALO A.K.

AUTHOR: POKALO A.K.

20-5-9/48

TITLE: On the Summability of the Function Classes $B^{(r)}$. (K voprosu o summirovanii funktsiy klassov $B^{(r)}$).

PERIODICAL: Doklady Akad.Nauk SSSR, 1957, Vol.116, Nr.5, pp.750-753 (USSR)

ABSTRACT: Let T_m ($m=1,2,\dots$) denote the class of regular summation methods with the factors $\mu_n(k) = \varphi_1(k)$ for $0 \leq k \leq n_1$; $\mu_n(k) = \varphi_2(k)$ for $n_1 < k \leq n_2$; $\dots$; $\mu_n(k) = \varphi_m(k)$ for $n_{m-1} < k \leq n$; $\mu_n(n+1) = 0$. The φ_i are functions of integral arguments n for $n \geq n_0$ and k for $k = 0,1,2,\dots$ which guarantee the regularity of the summation method defined by them. The summation method $\mu \in T_1$ is defined by the factors $\mu_n(k)$ ($0 \leq k \leq n$) which are represented as Newton's interpolation polynomials with a remainder:

$$\mu_n(k) = \sum_{j=0}^p \beta_j k \dots (k+1-j) + \varrho_p(n,k) \quad (0 \leq k \leq n).$$

Card 1/3 For the function $f(z) = \sum_{k=0}^{\infty} c_k z^k \in B^{(r)}$ let be given the μ -means:

On the Summability of the Function Classes $B^{(r)}$

20-5-9/48

$$+ O \left[\frac{\ln(n-r+2)}{n+2} \right] \left\{ \beta_j \prod_{v=1}^{j-r} (n+v) + \sum_{k=0}^n c_k z^k \mathcal{S}_p(n,k); \right.$$

$$\left. (|e_n(j)| \leq 1; 0 \leq j \leq p; n \geq r-1; r = 1, 2, \dots) \right\}.$$

The theorem can easily be generalized to the methods T_m ($m > 1$).
Five Soviet references are quoted.

PRESENTED: By A. N. Kolmogorov, Academician, April 25, 1957
ASSOCIATION: Minsk State Pedagogical Institute imeni A. M. Gor'kiy (Minskiy gosudarstvennyy pedagogicheskiy institut im. A. M. Gor'kogo)

SUBMITTED: January 29, 1957

AVAILABLE: Library of Congress

Card 3/3

POKALO, A.K.

One class of linear summation methods. Vestsi AN BSSR.Ser.fiz.-
tekh.nav. no.1:24-27 '62. (MIRA 16:9)
(Series, Infinite) (Functional analysis)

POKALO, A.K., Cand Phys Math Sci -- (diss) "Summarization
of ~~the~~ series of analytical functions in a single circle."
Minsk, 1958, Cover, 4 pp (Min of Higher Education USSR.
Belorussian State Univ im V.I. Lenin) 150 copies

- 18 -

CA

11

Treatment of molding clay suspensions. M. M. Dobrotvorskii, N. N. Potalev, and N. V. Nervanova. *Stal* 8, 1020-27 (1948).—Dry clay is charged into a ball mill together with H_2O and the requisite amt. of Na_2CO_3 as dispersant. The results and cost when a clay slurry, d. 1.6-1.8, was used were better than when the clay was mixed dry. M. Houch

POKALOV, V.T.

Formation of commercial molybdenum deposits in the history of the geotectonic development of molybdenum-bearing provinces of the U.S.S.R. Sov.geol. 5 no.12:3-15 D '62. (MIRA 16:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Molybdenum ores)

POKALOV, Valentin Tikhonovich; KHRUSHCHOV, N.A., nauchnyy red.

[Conditions governing the formation of endogenetic molybdenum deposits in the U.S.S.R.]. Usloviia obrazovaniia endogennykh mestorozhdenii molibdena v SSSR. Moskva, Nedra, 1964. 208p. (Moscow, Vsesoiuznyi nauchno-issledovatel'skii institut mineral'nogo syr'ia. Trudy, no.12) (MIRA 18:2)

KUDRIN, V.S.; KUDRINA, M.A.; SHURIGA, T.N.; GINZBURG, A.I., glavnyy red.;
APEL'TSIN, F.R., zastititel' glavnogo redaktora; CHERNYSHEVA,
L.V., red.; BEUS, A.A., red.; GREKULOVA, L.A., red.;
GRIGOR'YEV, V.M., red.; ZABOLOTNAYA, N.P., red.; MATIAS, V.V.,
red.; POKALOV, V.T., red.; RODIONOV, G.G., red.; STEPANOV, I.S.,
red.; CHERNO SVITOV, Yu.L., red.; SHMANENKOV, I.V., red.

[Rare-metal metasomatic formations associated with subalkaline
granitoids.] Redkometal'nye metasomaticheskie obrazovaniia,
svyazennye s subshchelochnymi granitoidami. Moskva, Nedra,
1965. 145 p. (Geologiya mestorozhdenii redkikh elementov,
no.25) (MIRA 18:8)

POKALOV, V.T.

Mode of rhenium occurrence in molybdenite. Min.syr'e no.7:179-181
'63. (MIRA 16:9)
(Rhenium) (Molybdenite--Analysis)

POKALOV, V.T.; CHERNOV, B.S.

Formation, distribution, and types of molybdenum deposits in
Khakassia. Min.syr'e no.4:36-50 '62. (MIRA 16:4)
(Khakass Autonomous Province—Molybdenum ores)

ZILOV, A.R.; POKALOV, V.T.

Molybdenum mineralization in the Uda-Vitim tectonic zone of
Transbaikalia. Min.syr'e no.5:70-82 '62. (MIRA 16:4)
(Transbaikalia--Molybdenum ores)

POKALOV, V.T.

Chemistry of hydrothermal changes in granites of the Eastern
Kounrad deposit. Min.syr'e no.5:47-55 '62. (MIRA 16:4)
(Kounrad region—Granite—Analysis)

POKALOV V. T. Cand Geol-Min Sci -- (diss) "Geology and genesis of the
Umal'tinskiy molybdenum deposits." Mos, 1958. 21 pp (Min of Geology and
Mineral Conservation. All-Union Sci Res Inst of Mineral Raw Material VIMS),
150 copies (KL, 6-58, 99)

~~POKALOV, V. T.~~

Structure, age, and circumveinal changes of the Umalta molybdenum deposit [with summary in English]. Sov. geol. 1 no.3:69-84 Mr '58. (MIRA 11:5)

1. Vsesoyuznyy institut mineral'nogo syr'ya.
(Verkhne-Buryeinskiy District--Molybdenum)

POKALOV, V.T.; PASTUKHOVA, Ye.S.

Age and genetic characteristics of the Sora molybdenum deposit.
Sov. geol. 4 no.7:107-122 J1 '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya.

(Uybat Mountain—Molybdenum ores)

BALASHOVA, A.P.; LUTSKIY, V.N.; POKALYAKIN, V.I.; CHELYSHKOV, S.P.

Interdepartmental conference on the physical principles of cathode
electronics. Radiotekh. i elektron. 7 no.10:1846-1848 0 '62.

(MIRA 15:10)

(Cathodes—Congresses)

(Electron tubes—Congresses)

9.4310 26.1630

24917

S/181/61/003/006/014/03:
B 102/B201

AUTHORS: Stepanov, G.V., Pokalyakin, V.I., and Yelinson, M.I. X

TITLE: Characteristics of the hot electron emission from natural p-n junctions in SiC crystals

PERIODICAL: Fizika tverdogo tela, v. 3, no. 6, 1961, 1762-1767

TEXT: The authors report on the electron emission from p-n junctions in SiC crystals in pulsed operation as depending upon the magnitude of the blocking voltage U and temperature T . SiC was chosen as the object of the investigation for being chemically somewhat inert and because the threshold energy of impact ionization in SiC is higher than the energy of electron affinity ($\phi_i \approx 4.3\text{ev}$, $\chi = 4\text{ev}$). The emission of hot electrons from natural p-n junctions in SiC (arising when growing α -SiC by the sublimation method) had been first studied in Ref.3. The $2 \times 2 \times 0.3\text{mm}$ sized single crystal specimens displayed the p-n junction on the (1000) face. The measuring apparatus is schematically shown in Fig.1. Negative square pulses were used (amplitude up to 400v, duration $2\mu\text{sec}$, repetition frequency 50 sec^{-1}), whereby the specimen could be kept at a constant

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Characteristics of the hot ...

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temperature. The voltages were measured by an oscilloscope, and the emission currents by a tube electrometer (sensitivity $\sim 10^{-13}$ a). The volt-ampere characteristics were recorded both in the forward and in the inverse direction at different frequencies and different temperatures. The rectification factor proved to be very small. In addition, the emission current i_e as a function of U was examined (which had been neglected in Ref.3). The emission centers were found to be bright points (electron gas, heated by high field-strength concentrations); the visible luminescence is a consequence of the recombination of hot electrons with impurities. The emitting points have linear dimensions of 10μ . With absolute values of $i_e \sim 50\mu$ a the emission current densities are $\sim 10^4$ Ca/cm² (which fits results of Ref.3). i_e rises with growing temperature and attains saturation even before the beginning of impact ionization; the $i_e(U)$ curves shift with a rise of temperature toward lower U values. The effectivity of γ -emission ($\gamma = i_e/i_{\text{through}}$) is very small ($\gamma \sim 10^{-4}$); the $\gamma(U)$ curves

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display a maximum, the height of which is reduced with a rise of temperature. Sputtering of BaO raises i_e considerably, by one order of magnitude at best; i_{through} (the current passing through the junction) is left practically unchanged in this connection. V.G. Sandomirskiy is thanked for his discussions, and N.V. Sumin and A.M. Fadeyev for their assistance. There are 5 figures and 11 references: 2 Soviet-bloc and 9 non-Soviet-bloc. The most important references to English-language publications read as follows: Ref.2: J. Tanc. Nature, 181, No. 4601, 38, 1958; Ref.3: L. Patrick, W.J. Choyke. Phys. Rev. Lett., 2, No. 2, 48, 1959; Ref.8: L. Patrick JAP, 31, No. 8, 1505, 1960.

ASSOCIATION: Institut radiotekhniki i elektroniki AN SSSR Moskva
(Institute of Radio Engineering and Electronics, AS USSR,
Moscow)

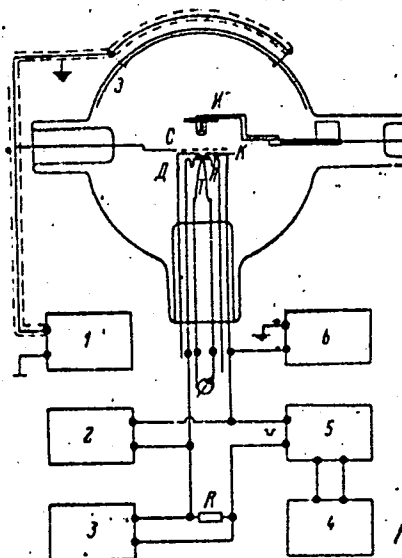
SUBMITTED: January 6, 1961

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Characteristics of the hot ... 24917

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B102/B201

Legend to Fig.1: K - SiC crystal, J - tantalum strip, for crystal heating, T - thermocouple, A - attached nickel disk; C - electron trap, B - willemite screen, V - BaO source. 1) Electrometer; 2), 3) oscilloscopes for measurement of voltage on crystal and of current through the crystal. 4) Generator; 5) Pulse generator; 6) source of collector voltage.



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20583
S/109/61/006/002/015/023
E190/E435

AUTHORS: Yelinson, M.I., Stepanov, G.V. and Pokalyakin, V.I.

TITLE: Emission of Hot Electrons From p-n Junctions in SiC Crystals

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol.6, No.2, pp.292-297

TEXT: The emission of hot electrons from natural junctions in SiC crystals is investigated as a function of the reverse voltage (U_n) across the junction and temperature (T). SiC is of particular interest, since $\epsilon_i > \chi$ (Ref 1): (ϵ_i - threshold energy of impact ionization, χ - work function for hexagonal SiC; $\epsilon_i = 4.3$ ev, $\chi = 4.0$ ev). Also its chemical inertness should give surface stability. According to R.Goffaux (Ref.4) and Ye.T. Kharlamova and G.F.Kholuyanov (Ref.5) the most favoured mechanism is that the partly ionized donor centres become ionized. Earlier experimental data of L.Patrick and W.J.Choyke (Ref.2) did not include variation of the emission current i_s with field in the junction or with temperature, nor was the nature of the emission centres clarified. However, they did establish the high densities $j_s > 1$ amp/cm² and the law $i_s = i_{CKB}^k$

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where i_{CKB} - current through the junction and k - constant. The apparatus and method are briefly outlined (Fig.1). The crystals were grown by sublimation and the presence of junctions established from electro-luminescence and the volt-amp characteristics. The crystals were selected for brightness when reverse biased. Surface preparation consisted in removing the SiO_2 film and polishing. Both d.c. and pulse voltages could be applied, the latter such that heating effects could be obviated, even at high reverse voltages. The emission current was measured with an electrometer of sensitivity $\sim 10^{-13}$ amps. The measured emission current was in the range 10^{-12} to 10^{-6} amps. The emission builds up with time under direct current and at elevated temperature ($\sim 400^\circ C$). After eight hours, the emission reaches a steady value and becomes very stable. This build up is probably related to the surface cleanliness. The junction voltage necessary for emission varies over a considerable range. Comparison of the pattern of emission on the luminescent screen with the pattern of light spots on the crystal showed the latter to be the source of emission. As U_n is increased, the number of

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emission centres grows. The linear dimensions of the centres are from 1 to 10 μ . The current density, calculated from the sum of the areas of the emission centres is 1 to 10 amp/cm². This confirms the most important result of Patrick and Choyke (Ref.2). In Fig.2, the rapid growth over AB is particularly noticeable together with slow increase over BC. Curve 1 corresponds to a very rapid change of temperature with increasing voltage. For Curve 2, room temperature is maintained by use of 10 μ sec pulses over the whole voltage range. Curves 1', 2' are the corresponding emission currents. The slight fall in i_p for temperatures above 400°C may be due to lattice scattering. Pulse investigation carried out for temperatures of 20 and 75°C showed very weak temperature dependence in this range. This result disagrees with the theory of Sh.M.Kogan and V.B.Sandomirskiy (Ref.1) which is suitable for Ge and Si. Consequently, it seems that the increased scattering with increased temperature compensates for the increased number of electrons or that the field in the junction changes with temperature. The current saturates at a voltage which is still far below breakdown. In Fig.4, it is seen that the plot of i_p as a function of $i_{c,k}$ is independent of temperature

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Emission of Hot Electrons ...

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and voltage, i.e. the given value of i_0 always corresponds to a given value of i_{CK0} . This is explained by the high junction fields which depend only weakly on U_n (e.g. $E \sim \sqrt{U_n}$), acceleration is thus always adequate and not dependent on U_n and T . Emission simply increases with the number of carriers in the junction. Note the maximum of γ at the point B (the bend). Evidently over the portion BC a new scattering mechanism comes into play, the number of electrons capable of being emitted growing at a slower rate than total number of electrons. The relation between i_0 and i_{CK0} is also illustrated in curves taken at liquid nitrogen temperature. The curves in Fig.5 were taken on another crystal. The sharp increase has been established as being due to heating of the crystal. The maximum value of γ is about 10^{-4} , i.e. very small. Clearly this is due to losses in the very highly doped n-type layer, where the electric field is negligible. The following conclusions are arrived at:

1. The current densities are very high $j_0 = 1$ to 10 amp/cm² which is in agreement with Patrick and Choyke (Ref.2).
2. The emission is non-uniformly distributed over the surface.

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Emission of Hot Electrons ...

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3. The temperature dependence is weaker than the theoretical dependence for Ge and Si; this is associated with the increased scattering nullifying the increase of carrier concentration with temperature.

4. The ratio γ is very small, about 10^{-4} . This is possibly related to scattering of electrons near the emitting surface; it has a maximum at a particular voltage U_n . The decrease of γ above this point is due to a new powerful scattering mechanism.

5. The emitted current is strongly associated with reverse current and independent of temperature and voltage. This is explained by the strong junction field which is always sufficient to accelerate the electrons.

Acknowledgments are expressed to V.B.Sandomirskiy for advice and to N.V.Sumin and A.M.Fadeyeva for assistance. There are

5 figures and 5 references: 2 Soviet and 3 non-Soviet.

SUBMITTED: September 7, 1960

Card 5/9

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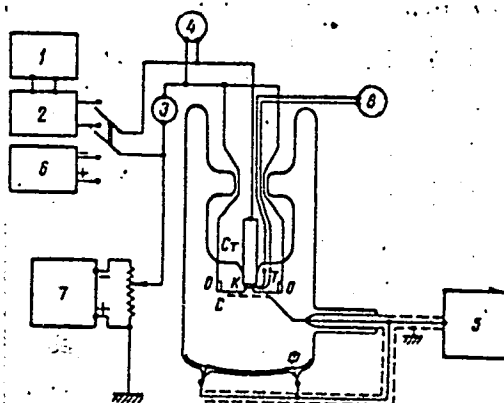
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Emission of Hot Electrons ...

Fig.1. Experimental apparatus and circuit for the investigation.

- K - SiC crystal
- O - tungsten springing of the point
- CT - thick molybdenum rod to increase heat conduction from the crystal
- C - accelerating anode plate
- Φ - fluorescent screen on a transparent metallic base
- 1 - pulse generator
- 2 - pulse amplifier
- 3 - meter for measuring stationary or mean current
- 4 - meter for measuring d.c. or pulse voltages
- 5 - tube electrometer
- 6 - constant current supply
- 7 - anode voltage supply
- 8 - temperature measurement.

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Emission of Hot Electrons ...

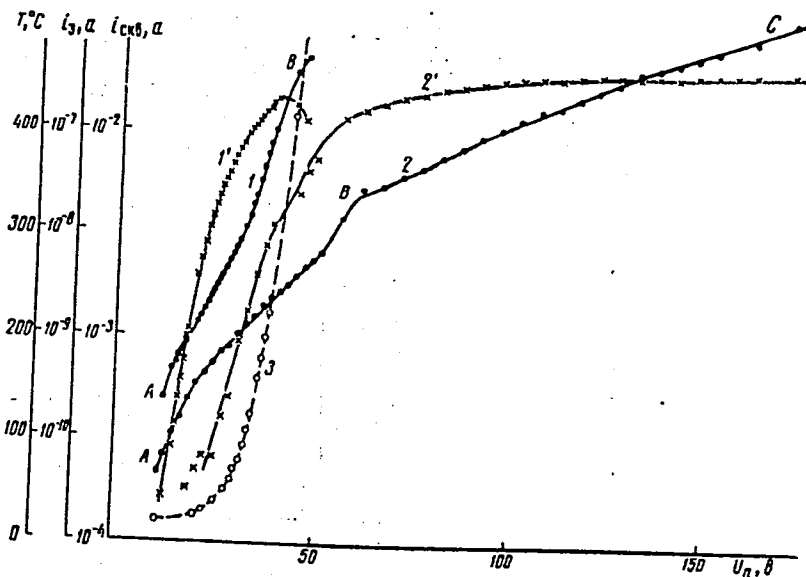
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E190/E435

Fig.2. Comparison of static and pulsed junction characteristics.

Curves 1,1' -
 i_{ckB} and i_{β} for
static operation
as function of U_n

Curves 2,2' -
 i_{ckB} and i_{β} for
pulsed operation,
Temperature 20°C

Curve 3 - slice
temperature during
static operation.

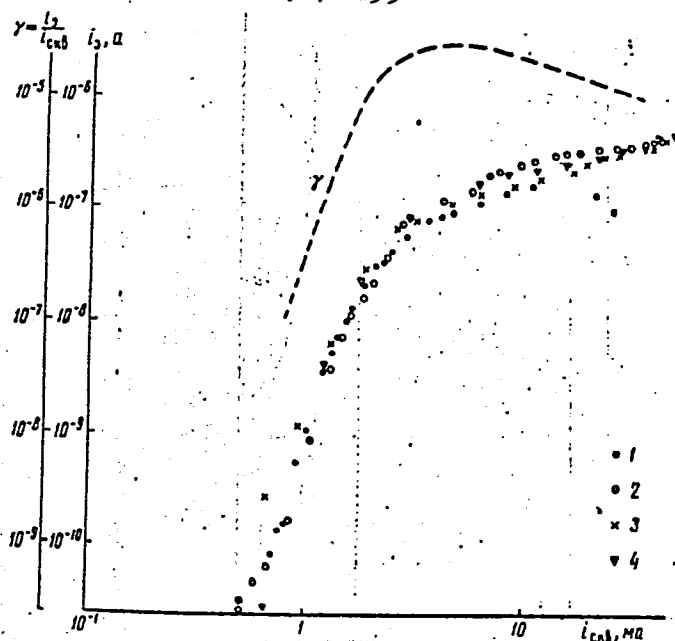


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Emission of Hot Electrons ...

Fig. 4.
 i_{CKB} as function
 of γ and
 i_3 as a
 function of i_{CKB}

Curve 1 - static
 Curves 2, 3 -
 pulsed at 20°C
 Curve 4 - pulsed
 at 75°C.

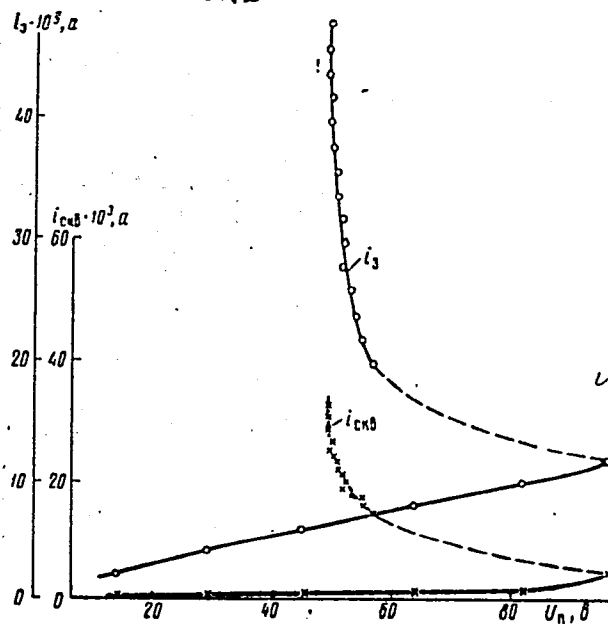


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Fig. 5. Static characteristics i_s and i_{CKB} as functions of U_n at -180°C .



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AKOPOV, K.A.; KARELINA, N.A.; POKALYAKIN, V.I.; STEPANOV, G.V.

Interagency seminar on cathode electronics. Radiotekh.1
elektron. 6 no.5:863-864 My '61. (MIRA 14:4)
(Electronics--Congresses)

KUMSKOV, V.T., kand. tekhn. nauk, dots.; POKALYUK, A.I., kand.
tekhn. nauk, dots.; PERELET, V.I., dots., retsenzent;
GRITSEVSKIY, M.Ye., inzh., red.; KHITROVA, N.A., tekhn.
red.

[Fuel and combustion processes] Toplivo i protsessy go-
reniia. Moskva, Transzheldorizdat, 1963. 191 p.
(MIRA 16:11)

(Fuel) (Combustion)

L 2918-66 EWT(m)/EPF(c)/I/EWA(c) WE/JXT(CZ)

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BOOK EXPLOITATION

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Kumskov, V. T.; Pokalyuk, A. I.

Fuel and combustion processes (Toplivo i protsessy goreniya) Moscow, Transzheldorizdat, 1963. 191 p. illus., biblio., tables. 5000 copies printed. Authorized as a textbook by Glavnoye upravleniye uchebnymi zavedeniyami MPS. Reviewer: Docent V. I. Perelet; Editor: Engineer M. Ye. Gritsevskiy; Scientific editor for literature on the locomotive economy: V. A. Drobinskiy; Technical editor: N. A. Khitrova; Proofreader: A. A. Tomilina

TOPIC TAGS: combustion, fuel, gaseous fuel, liquid fuel, solid fuel

PURPOSE AND COVERAGE: This book was intended as a textbook for students in power specializations in higher educational institutions for railroad transport and may be used also by students in other specializations and also by engineers and technicians. A brief characterization of sources of thermal power is given, followed by classifications and the physical-chemical properties of fuels. The physical-chemical bases of the combustion processes are analyzed for solid, liquid, and gaseous fuels. The authors express their gratitude to Docent V. I. Perelet and to the members of the Kafedra "Teplotekhniki" of the Khar'kovskiy Institut Inzhenerov

Card 1/3

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zheleznodorozhnogo transporta.

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OTHER: 000

PC
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POKALYUK, ALEKSEY IVANOVICH

PINGHUK, Galina Aleksandrovna; POKALYUK, Aleksey Ivanovich; TEBENIKHIN, Yevgeniy Fedorovich; MEL'NIK, V.A., inzhener, redaktor; VORONOV, N.M., inzhener, redaktor; ZHILIN, A.S., inzhener, redaktor; KHITROV, P.A., tekhnicheskii redaktor.

[The technology of fuels, lubricants and water] Tekhnologiya topliva, smazochnykh materialov i vody. Moskva, Gos. transportnoe zhel-dor. izd-vo, 1954. 351 p. (MIRA 7:12)

(Fuel) (Lubrication and lubricants) (Water)

GRANOVSKIY, R.G., prof.; POKALYUK, A.I., dotsent

Natural gas as fuel for boiler plants. Trudy MIIT no.125:149-165
'60. (MIRA 13:10)

(Natural gas) (Boilers)

S/170/60/003/011/016/016
B019/B056

AUTHORS: Kumskov, V. T., Pokalyuk, A. I., Smirnov, V. A.
TITLE: Intercollegiate Conference on the Principle of Similarity
and Its Application in Heat Engineering ✓
PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 11,
pp. 120-124

TEXT: From June 6 to June 10, 1960, the mezhvuzovskaya konferentsiya po teorii podobiya i yeye primeneniyu v teplotekhniki (Intercollegiate Conference on the Principle of Similarity and Its Application in Heat Engineering) was held at the Moskovskiy institut inzhenerov transporta (MIIT) (Moscow Institute of Transportation Engineers). The Conference was attended by roughly 500 scientific workers. 68 lectures were delivered. After the opening words spoken by the President of the Organization Committee, Deputy Chief of the MIIT, Professor A. I. Ioannisyan, Professor P. K. Konakov (MIIT) began his lecture on "The Present Stage of the Principle of Similarity and the Perspectives of Its Application in Heat Engineering". Academician of the AS BSSR, A. V. Lykov of the Institut

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energetiki AN BSSR (Institute of Power Engineering of the AS BSSR) investigated problems of the integral transformations and operator methods and their relations to the principle of similarity. Professor V. A. Venikov of the Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering), holder of the Lenin Prize, investigated problems concerning the relations between investigations carried out on models, in nature, and analytical investigations. Professor S. G. Teletov of the Institut atomnoy energii AN SSSR im. I. V. Kurchatova (Institute of Atomic Energy of the AS USSR imeni I. V. Kurchatov) in his lecture studied the planning of experimental investigations in correspondence with the demands made by the principle of similarity. According to the opinion of Professor A. A. Gukhman of the Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute of Machine Construction), the most important problem is that of the development of methods, by means of which it is possible to build up the characteristic variables of a physical problem. Professor Ye. V. Kudryavtsev of the ENIN AS USSR attached great importance to the principle of similarity in the investigation of heat exchange processes. Professor L. I. Kudryashchev of the Kuybyshevskiy aviatsionnyy institut

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(Kuybyshev Aviation Institute) and Candidate of Technical Sciences
A. G. Temkin of the Kaliningradskiy tekhnicheskii institut rybnoy
promyshlennosti i khozyaystva (Kaliningrad Technical Institute of the
Fisheries and Economics) also delivered lectures which are not dealt with
in detail. The theoretical section of the Conference was under the chair-
manship of Professor Konakov. Here, 17 lectures were delivered. The lecture
by B. V. Kantorovich of the Institut goryuchikh iskopayemykh AN SSSR
(Institute of Fuel Minerals of the AS USSR) had the title "The Application
of the Principle of Similarity in Investigations of Combustion Processes".
The lectures delivered by V. A. Shvab, M. Ye. Dogin of the Tomskiy
elektromekhanicheskii institut inzhenerov zheleznodorozhnyy transporta
(Tomsk Electromechanical Institute for Railroad Engineers) and by
Z. M. Kudryavtseva of the TsNIIchermet dealt with the application of the
principle of similarity in investigations of the motions of drop-gas
mixtures in pipelines. The lectures delivered by Professor L. I.
Kudryashov (Kuybyshev Aviation Institute) and Professor A. V. Teplov
of the Voyennaya akademiya tyla i transporta (Military Academy for
Supplies and Transportation) dealt with the gas-dynamical simulation of

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municipal gas lines. V. M. Golovin (Kuybyshev Aviation Institute) dealt with the estimation of the dissipation of mechanical energy in motions of liquids. V. O. Fogel of the Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Chemical Technology) investigated the application of the principle of similarity and the electric simulation for the investigation of vulcanization processes. A. V. Temikov (Kuybyshev Aviation Institute) delivered a lecture on "The Similarity of Phenomena of Nonsteady Heat Conduction in Metals". G. P. Ivantsov (TsNIIChermet) dealt with the application of gauge transformations to problems of mathematical physics and heat engineering. A. M. Kulik (Institute of Atomic Energy of the AS USSR imeni I. V. Kurchatov) investigated the application of the principle of similarity to nonsteady temperature fields. Yu. N. Zakharov of the Novosibirskiy institut inzhenerov vodnogo transporta (Novosibirsk Institute for Water-transportation Engineers) investigated the rules governing the functioning of jets. The application of the principle of similarity for the purpose of investigating the nonsteady temperature fields in complex bodies was dealt with by A. G. Temkin. A. M. Shedrin of the Nauchno-issledovatel'skiy institut sel'skogo stroitel'stva (Scientific

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Research Institute for Rural Constructions) investigated the application of the principle of similarity to elasticity effects. The section for heat-mass exchange was under the chairmanship of Academician of the AS BSSR A. V. Lykov. Yu. A. Mikhaylov of the Institut energetiki i elektrotehniki AN Latv. SSR (Institute of Power Engineering and Electrotechnics of the AS Latvyskaya SSR) investigated heat-mass exchanges in disperse media. A. V. Ralko of the Kiyevskiy politekhnicheskii institut (Kiyev Polytechnic Institute) investigated the simulation of glowing processes. G. N. Sizov of the Tsentral'nyy nauchno-issledovatel'skiy institut ekonomiki i ekspluatatsii vodnogo transporta (Central Scientific Research Institute for the Productivity and Exploitation of Water Transports) investigated the simulation of the turbulent heat exchange. Z. M. Miropol'skiy of the Moskovskiy lesotekhnicheskii institut (Moscow Institute of Forestry) investigated the heat exchange in the condensation of high tension steam. B. I. Kolbasov (Institute of Atomic Energy of the AS USSR imeni Kurchatov) spoke about the results of an investigation of the heat exchange in the critical region in the flow of carbonic acid in tubes. Most of the lectures were delivered in the section for heat exchange. The section was supervised

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by Professor P. N. Pomanenko. Professor A. M. Gurvich of the TsKTI imeni Polzunov reported on research work in the Laboratoriya luchistogo teploobmena TsKTI (Laboratory of Radiation Heat Exchange of the TsKTI) carried out in the course of recent years. Ye. P. Karasev of the Lenin-gradskoye vyssheye voyenno-morskoye inzhenernoye uchilishche im. Dzerzhinskogo (Leningrad Higher Naval Engineering School imeni Dzerzhinskiy) dealt with the simulation of steam aggregates. P. N. Pomanenko investigated the resistance and the heat exchange of a turbulent gas flow in diffuser-channels. V. P. Motulevich of the ENIN AS USSR dealt with the heat exchange and the friction of plates in a gas flow. B. S. D'yachenko of the Nikolayevskiy korablestroitel'nyy institut im. admirala Makarova (Nikolayev Shipbuilding Institut imeni Admiral Makarov) dealt with the estimation of heat exchangers of gas turbines in shipbuilding. V. G. Dorofeyev of the Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute) gave the results of an investigation of the heat exchange of electrolocomotive resistors. P. M. Brdlik, G. Ye. Verevochkin, and V. A. Smirnov (MIIT, ENIN AS USSR) investigated the heat exchange between jets and plates. Ye. V. Kudryavtsev and K. N. Kachalev (ENIN AS

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USSR) investigated the operation of an electronic universal calorimeter. K. F. Aksenov of the Vsesoyuznyy zaochnyy institut inzhenerov transporta (All-Union Correspondence Institute for Transportation Engineers) reported on experimental data concerning a heat exchanger. S. S. Filimonov and B. A. Khrustalev (ENIN AS USSR) reported on thermotechnical investigations of the flow of a liquid through tubes. A. I. Leont'yev (Moscow Institute of Forestry), N. Ye. Ninua of the Gruzinskiy politekhnicheskii institut (Georgian Polytechnic Institute), G. P. Boykov (Tomsk Polytechnic Institute), I. S. Kochenov, and G. Ye. Merozov (Institute of Atomic Energy of the AS USSR imeni I. V. Kurchatov), A. A. Smirnov (Kuybyshev Aviation Institute), and V. G. Ushakov of the Novocherkasskiy politekhnicheskii institut (Novocherkassk Polytechnic Institute) delivered lectures which are mentioned in passing only. The last day was devoted to the works in the Simulation Laboratory of the Kafedra "Teplosilovyye ustanovki" MIITa (Chair of "Thermal Power Plants" of the MIIT). A lecture delivered by P. K. Konakov was on "The Rules of the Complex Heat Exchange". V. T. Kumskov (MIIT) delivered the lecture "An Investigation of the Complex Heat Exchange in Combustion Chambers". V. I. Lebedev reported on

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"An Investigation of the Action of the Degree of Blackening Upon the Heat Exchange in Combustion Chambers". The section for thermal power machines was under the supervision of Professor V. V. Lakhanin (Novosibirsk Institute for Water Transportation Engineers). In his lecture he dealt with a detailed analysis of the heat calculation of piston machines. In this connection, B. Kh. Draganov of the Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (Ukraine Academy of Economics) is mentioned. The collaborators of the Central Scientific Research Institute of Economics and Exploitation of Water Transportation carried out experiments on the application of the principle of similarity for transport calculations. S. N. Dashkov (Military Academy for Supplies and Transportation) spoke about the application of the principle of similarity in the calculation of motorcar engines. M. G. Kruglov and N. P. Kozlov of the MVTU imeni Bauman gave a report on the application of the principle of similarity in the investigation of processes in combustion engines. L. I. Fonkinskiy (Central Scientific Research Institute of Economics and the Exploitation of Water Transportation) investigated the methods of calculating river transportation. B. I. Buber of the Murmanskoye vyssheye morskoye

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uchilishche (Murmansk Higher College of Navigation) investigated the optimum operation conditions for steam engines for ships. Ye. A. Nikitin of the Kalomenskiy teplovozostroitel'nyy zavod im. Kuybysheva (Kalomensk Steam Locomotive Factory imeni Kuybyshev) spoke about investigations of compressorless Diesel engines by means of the principle of similarity. M. P. Aleksandrov of the MVTU imeni Bauman applied the principle of similarity to the determination of the heating of braking systems. V. D. Zinevich of the Leningradskiy gornyy institut (Leningrad Mining Institute) investigated pneumatic motors produced by the factory "Pnevmatika" of the Leningradskiy gosudarstvennyy nauchno-issledovatskiy tsentr (Leningrad State Scientific Center) on the basis of the principle of similarity. B. Kh. Draganov (Ukraine Academy of Economics) and K. Ye. Ucheshko (Nikolayev Shipbuilding Institute imeni Admiral Makarov) studied the application of the principle of similarity to steam-power engines. The section made decisions concerning the further development of the application of the principle of similarity, which are summarized in form of three points. Furthermore, the senior editor of the "Inzhenerno-fizicheskiy zhurnal", Academician of the AS BSSR A. V. Lykov is requested to publish works on the principle of similarity regularly. Energoizdat is requested to

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publish monographs on the principle of similarity. The AS BSSR and the Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya SSSR (Ministry for Higher and Medium Special Training of the USSR) are requested to increase the volume of the present periodical. Suggestions are made concerning the improvement of the degree of education of engineers.

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Pokalyukov, S. N.

KRSTOSHEVSKIY, L.S.; DANCHICH, V.V.; AVDIYENKO, T.G.; ARKHANGEL'SKIY, A.F.;
GAK, A.M.; YEPIFANTSEV, Yu.P.; ZELINSKIY, V.M.; IVANOV, P.S.; IVASHCHENKO,
P.R.; KALININA, M.D.; KRAVCHENKO, A.G.; KOTLYAROVA, A.V.; KRUGLYAKOVA,
M.D.; LEVIKOV, I.I.; LIBKIND, R.I.; NIKOLAYEVA, N.A.; NAUMENKO, V.F.;
PRESEMAN, I.B.; PRISTAZHENIKOV, V.S.; POBEDINSKAYA, L.P.; POKALYUKOV,
S.N.; POPOV, A.A.; SOLOMENTSEV, M.N.; TARASOV, I.V.; FILONENKO, A.S.;
SHISHOV, Ye.L.; SHRAYMAN, L.I.; YAKUSHIN, N.P.; ZVORYKINA, L.N., red.
izd-va; LOMILINA, L.N., tekhn.red.

[Horizontal mining in foreign countries] Provedenie gorizontal'nykh
vyrabotok za rubezhom. Moskva, Ugletekhizdat, 1958. 342 p. (MIRA 12:4)

1. Kharkov. Vsesoyuznyy nauchno-issledovatel'skiy institut organizatsii
i mekhanizatsii shakhtnogo stroitel'stva.
(Mining engineering)

POKALYUKOV, S.N., inzh.; ALFEROV, B.V., inzh.; DUDKO, V.P., inzh.

URPM sectional reinforced concrete supports. Shakht.stroi. no.2:20-23
F '59. (MIRA 12:3)

(Mine timbering)
(Reinforced concrete construction)

AKOL'ZIN, L.Ye.; BOROZDOV, I.A.; BEDILO, V.Ye.; TERESHKIN, F.N. Prinimali uchastiye: BELYAYEV, F.R.; BEREZHNOY, N.V.; BUBYR', V.A.; VARSHAVSKIY, I.H.; DUDKO, V.P.; YERSHOV, V.S.; DUGIN, Ye.V.; DUKALOV, M.F.; IVANOV, P.S.; KONAREVA, V.F.; MONIN, M.I.; MOGILKO, A.P.; PANCHEIKO, A.I.; POKALYUKOV, S.N.; PRIKHOD'KO, N.D.; RUBIN, I.A.; SIDORENKO, P.A.; TYUTYUNIK, Ya.I.; KHMEL'NITSKIY, L.Ya.; BONDAR', V.I.; KRIVTSOV, A.T.; LOKSHIN, V.D.; SOFIYENKO, N.P. RABINKOVA, L.K., red.izd-vs; BOLDYREVA, Z.A., tekhn.red.

[Types of mine cross section] Tipovye secheniya gornykh vyrabotok. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu. Vol.4.

[Cross section of mines supported by a sectional reinforced-concrete lining of URP-II panels for 1-, 2- and 3-ton railroad cars] Secheniya vyrabotok, zakreplennykh sbornoj zhelezobetonnoj krep'iu iz plit URP-II, dlia 1-, 2- i 3-tonnykh vagonetok. 1960. 278 p.

(MIRA 13:12)

1. Khar'kov. Gosudarstvennyy proyektnyy institut Yuzhgiroshakht.
(Mine timbering)

V. V. Pokamestov, L. M. Malkov (USSR) and S. A. Funikov

~~Complex mechanization of peat fields preparations~~
" Complex mechanization of peat fields preparations "

Report submitted for the 2nd International Peat Congress, Leningrad,
15-22 Aug 63.

POKAMESTOV, V.V.; GLAGOLEV, P.P.; LUK'YANOV, A.D.

Preparation of peat bogs by deep continuous milling. Trudy
VNIITP no.21:3-93 '63. (MIRA 17:3)

POKAMESTOV, V.V.

Mechanizing the drying of soaked cut peat. Biul. tekhn.-ekon.
inform. no.8:9-10 '58. (MIRA 11:10)
(Peat machinery)

MOROZOV, N.M., inzh.; POKAMESTOV, V.V., inzh.

Mechanized drying of a wet layer of milled peat on the side of
piles. Torf. prom. 35 no.6:9-11 '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy pro-
myshlennosti (VNIITP)
(Peat--Drying) (Peat machinery)

LUK'YANOV, A.D., inzh.; PANKRATOV, N.S., kand. tekhn. nauk; POKAMESTOV, V.V.,
inzh.

Preparation of the surface of peat fields by the deep milling of
stump-containing layers. Torf. prom. 36 no.5:8-11 '59.

(MIRA 13:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut torfyanoy
promyshlennosti.

(Peat machinery)

PANKARTOV, N.I.; LUK'YANOV, A.D.; POKAMESTOV, V.V.

New method for preparing peat fields. *Biul.tekh.-ekon.inform.* no.5:8-10
'60. (MIRA 14:3)

(Peat machinery)

PANKRATOV, N.S., kand.tekhn.nauk; LUK'YANOV, A.D., inzh., POKAMESTOV, V.V.,
inzh.

Mechanizing the preparation of peat deposits and swamplands. Mekh.i
avtom.proizv. 14 no.5:30-32 My '60. (MIRA 14:2)
(Peat machinery—Technological innovations)

PANKRATOV, N.S., kand. tekhn. nauk; POKAMESTOV, V.V.; LUK'YANOV, A.D.;
GAVRILOV, Yu.M.; IVANOV, Yu.I.; KONDRASHOV, A.S.; MAYEVSKAYA,
K.T.; MALKOV, L.M.; FOMIN, V.K.; KOLOTUSHKIN, V.I., red.;
LARIONOV, G.Ye., tekhn. red.

[New equipment and technology of peat-bog preparation and the
winning of granulated peat] Novaia tekhnika i tekhnologiya bolotno-
podgotovitel'nykh rabot i dobychi granulirovannogo torfa. Moskva,
Gos. energ. izd-vo, 1961. 86 p. (MIRA 15:2)

1. Leningrad. Vsesoyuznyy nauchno-issledovatel'skiy institut tor-
fyanoy promyshlennosti. Direktor filiala Vsesoyuznogo nauchno-
issledovatel'skogo instituta torfyanoy promyshlennosti (for
Pankratov).

(Peat bogs) (Peat machinery)

BOKSHTEYN, S.Z. (Moskva); KISHKIN, S.T. (Moskva); LOZINSKIY, M.G. (Moskva);
SOKOLKOV, Ye.N. (Moskva); Primalni uchastiye: PODVOYSKAYA, O.N.;
ZILOVA, T.K.; SOROKINA, K.P.; POLYAK, E.V.; MOROZ, L.M.;
BULYGIN, I.P.; LASHKO, N.F.; POKAMESTOVA, T.N.; GORDEYEVA, T.A.;
YAGLOV, R.V.; VOLODINA, T.A.; KORABLEVA, G.N.; ANTIPOVA, Ye.I.

Thermomechanical treatment of chromium-nickel-manganese
austenitic steel. Izv. AN SSSR. Otd. tekhn. nauk. Met. i topl.
no.2:15-21 Mr-Apr '62. (MIRA 15:4)
(Chromium-nickel steel--Hardening)

DUGACHEVA, G.M.; ANIKIN, A.G.; POKAREV, B.S.

Zone sublimation and zone melting of benzoic acid. Zhur.fiz.khim.
39 no.10:2620-2622 O '65.

(MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
Submitted July 30, 1964.

BOYLOV, M.V.; POMAS, N.Ye.

Increasing our output. Mashinostroitel' no. 2:11 P '61.

(ISS. 14:3)

(Rubtsovsk--Tractor industry--Technological innovations)

TEMIRBEKOV, I.; KOLESIN, G.; POKASAN'YEV, A.; SAVICH, M.P., red.; KOZLOV,
S.V., tekhn. red.

[Our achievements; practices in growing corn] Nashi dostizhenia;
iz opyta vyrashchivaniia kukuruzy. Alma-Ata, Kazakhskoe gos. izd-vo,
1956. 15 p. (MIRA 11:7)

1. Glavnyy agronom Chistovskogo sovkhoza Severo-Kazakhstanskoy
oblasti (for Temirbekov). 2. Upravlyayushchiy otdeleniyem No.4
(for Kolesin). 3. Agronom otdeleniya (for Pokasan'yev).
(Kazakhstan—Corn (Maize))

POKASOV, Nikolay Andreyevich; KHVOSTOVA, D.M., redaktor; KIRSANOVA, N.A.
redaktor

[Boldly introduce new and progressive methods] Smelee vnedriat'
novoe, peredovoe. Moskva, Izd-vo VTsSPS, 1956. 46 p. (MLRA 10:4)

1. Burovoy master Medveditskoy kontory bureniya tresta
"Stalingradneftegazrazvedka"
(Oil well drilling)

POKASOV, N.A.

In honor of the 20th Congress of the Communist Party of the Soviet Union. Neft.khoz. 34 no.2:61-63 F '56. (MLRA 9:5)

1. Burovoy master Medveditskoy kontory bureniya tresta Stalingrad-neftegazrazvedka.

(Oil well drilling)

L 53822-65 EWA(k)/FBD/EWG(r)/EWT(l)/EWT(m)/EPF(c)/EEC(k)-2/EEC(t)/T/EWP(t)/
 EWP(k)/EEC(h)-2/EWP(h)/EWA(m)-2/EWA(h) Pm-4/Pn-4/Ps-4/Pf-4/Pr-4/Peb/Pi-4/
 ACCESSION NR: AP5013353 Pl-4 SCTB/IJP(c) UR/0109/65/010/005/0958/0960
 WG/JD 621.378.335

AUTHOR: Chebotayev, V. P.; Pokasov, V. V.

TITLE: Operation of a He-Ne laser with hollow-cathode discharge

SOURCE: Radiotekhnika i elektronika, v. 10, no. 5, 1965, 958-960

TOPIC TAGS: helium neon laser, hollow cathode discharge, water cooled laser,
 confocal resonator, laser

ABSTRACT: A study was made of the dependence of the output power of a He-Ne laser with a hollow cathode on discharge parameters, i.e., composition of the mixture, discharge current, and diameter of the discharge tube for several lines corresponding to 2s-2p neon transitions. The experiments were conducted with water-cooled discharge tubes 160 cm long with inner diameters of 13 and 29 mm. In experiments with the 13-mm tube, a confocal resonator formed by a pair of inner spherical mirrors was used. Laser emission was observed in pure neon simultaneously at the following four lines: 11,143 Å (2s₄-2p₈), 11,523 Å (2s₂-2p₄), 11,525 Å (2s₄-2p₇), and 11,767 Å (2s₂-2p₂). The optimum neon pressure at which these lines occurred was 5 x 10⁻² mm Hg. The relationship of output power at

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ACCESSION NR: AP5013353

11,523 Å and 11,143 Å to cathode current density for two values of neon pressure (5×10^{-2} mm Hg, 0.1 mm Hg) is plotted in Fig. 1 of the Enclosure. Emission in the He-Ne mixture was observed as the neon pressure was varied between 0.03 and 0.4 mm Hg. At the same time, changes in the optimum helium pressure were negligible. Under near-optimum conditions ($p_{Ne} = 0.15$ mm Hg, $p_{He} = 4.5$ mm Hg) in a thoroughly degassed tube, laser emission was observed at the following five lines: 11,523 Å, 11,614 Å ($2s_3-2p_5$), 11,770 Å, 11,985 Å ($2s_3-2p_2$), and 12,066 Å ($2s_5-2p_6$). In experiments with the 29-mm discharge tube, a resonator formed by a spherical and a plane mirror was employed. The dependence of the laser output power on helium pressure at 11,523 Å for two values of neon pressure (0.1 mm Hg, 0.15 mm Hg) and a cathode current density of 2 mamp/cm² is shown in Fig. 2. The optimum helium pressure for the 29-mm tube was about 2 mm Hg, which is about half as much as that of the 13-mm tube. Orig. art. has: 5 figures. [JR]

ASSOCIATION: none
SUBMITTED: 22Feb64 ENCL: 02 SUB CODE: EC

NO REF SOV: 002 OTHER: 001 ATD PRESS: 4022

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POKASOVSKIY, N.F.

Efficient design of diffusion battery screens. Sakh.prom. 32
no.10:40-42 0 '58. (MIRA 11:11)

1. Karlamanskiy sakharney zavod.
(Sugar industry--Equipment and supplies) (Diffusors)

POKATAYEV, A. I.

PA 237T11

USSR/Electricity - Wind-Electric
Power Stations Jun 52

"Power Regulation of a Wind-Electric Power Station," Cand Tech Sci V. N. Andrianov, and Engr A. I. Pokatayev, Moscow

"Elektrichestvo" No 6, pp 19-24

Cites results of exptl operation in 1951 of wind power station using wind-powered motor type D-18 at Zaporozh'ye Affiliate of All-Union Inst for Electrification of Agriculture in parallel with regular power system. Constant power output (ie, constant torque of windmill) was successfully maintained under increased wind velocities by use of

electromagnetic clutch between windmill fan and synchronous generator, although dissipation of heat from clutch presents problem. Submitted 28 Jan 52.

237T11

POKATAYEV, A. I.

POKATAYEV, A. I. -- "Problems of Parallel Function of a Wind Electric Station With a High-Speed Wind Engine of the Stabilizer Type Through a Synchronous Generator in the Circuit." Sub 20 Jun 52, Moscow Inst of Mechanization and Electrification of Agriculture imeni V. M. Molotov (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952

FLYUGACHEV, Vitaliy Kuz'mich [Pliuhachov, V.K.]; POKATAYEV, A.I.
[Pokatsiev, A.I.], spets.red.; KAMINSKIY, L.N. [Kamins'kyi,
L.N.], red.; ZAMAKHOVSKIY, L.S. [Zamakhovs'kyi, L.S.],
tekhn.red.

[Problems in the efficient supplying of electricity to rural
areas] Pytannia ratsional'noho elektropostachannia sil's'kykh
raioniv. Kharkiv, Kharkivs'ke knyzhkove vyd-vo, 1959. 91 p.
(MIRA 13:4)

(Rural electrification)

POKATAYEV, S.V.

Mechanical aging tests for steel with the aid of compression strain. Zav. lab. 30 no.7:889-891 '64. (MIRA 18 3)

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POKATAYEV, S.V., inzh.; NOVITSKIY, V.K., kand.tekhn.nauk; KRYANIN,
I.R., doktor tekhn.nauk, prof.

Effect of the method of steelmaking on its impact toughness
in the weld zone following electric slag welding. Svar.
proizv. no.1:3-8 Ja '63. (MIRA 16:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii
i mashinostroyeniya.

(Steel-Welding)

POKATAYEV, S.V., inzh.; NOVITSKIY, V.K., kand. tekhn. nauk; KRYANIN, I.R.,
doktor tekhn. nauk

Effect of steelmaking conditions on the impact toughness at
low temperatures of electric slag welded joints. Svar. proizvod.
no.6:22-26 Je '63. (MIRA 16:12)

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i mashinostroyeniya.

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S/135/63/000/001/001/016
A006/A101

12300
AUTHORS: Pokatayev, S. V., Engineer, Novitskiy, V. K., Candidate of Technical Sciences, Kryanin, I. R., Doctor of Technical Sciences

TITLE: The effect of the steel melting method upon toughness in the weld-adjacent zone during electric slag welding

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1963, 3 - 8

TEXT: Different values of toughness in weld-adjacent zones of steel from different heats depend on melting factors, such as deoxidation, content of sulfur, phosphorus and gas. The investigation was made with grade 20ГC (20GS) steel containing (in %): 0.16 - 0.22 C, 1.0 - 1.3 Mn, 0.6 - 0.8 Si, ≤ 0.030 S and P; ≤ 0.3 Cr, Ni and Cu. Specimens of steels from different heats were electric-slag welded at 850 - 900 amps current; 40 - 41 v arc voltage; 203 m/h electrode feed rate, and 1.2 m/h welding speed. The flux was ФЦ-7 (FTs-7). The following results are presented. The melting process exerts a considerable effect upon the mechanical properties of 20GS steel. Free Al in amounts of 0.01% and less, reduces the toughness on account of ferrite brittleness and the

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The effect of the steel melting method upon...

singling out of sulfides in the form of films on the austenite grain boundaries. Ferrite brittleness is caused by an increased content of dissolved oxygen and nitrogen. Particularly high sulfide separation on the grain boundaries takes place at a sulfur content in the steel exceeding 0.02%. A low content of free Al and increased sulfur amounts reduce the metal toughness in the coarse grain range even to a higher degree. The causes are: coarse-grained structure, singling out of brittle excess ferrite along the boundaries of overheated grains, and the presence of sulfide inclusions in the ferrite edges along the grain boundaries. The negative effect of sulfur upon the toughness of 20GS steel in the weld joints increases strongly with a higher carbon content in the steel. The possibility was established of melting low alloy 20GS steel without a decrease in toughness in the superheated zone during electric slag melting. The basic conditions for producing such a steel are: melting with not over 0.02% S, deoxidation with 0.02 - 0.04% rated amount of free Al. It is recommended to use ferroaluminum for deoxidation taking into account Al losses during its introduction into the ladle. The P content should be limited to 0.02%. The thermal cycle of the electric slag welding process was determined by S. S. Astaf'yev,

Card 2/3

The effect of the steel melting method upon...

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A006/A101

A. I. Rymkevich, (TsNIITMASH), A. I. Pugin and V. A. Merkulov (IMET imeni Baykov). There are 10 figures and 2 tables.

ASSOCIATION: TsNIITMASH

Card 3/3

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(Caucasus, Northern--Borers (Insects)--Extermination)

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SERGEYEVA, A.G., kand. ekon. nauk; IVANOV, N.P., kand. istor.
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Po KATILo, N.A.

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Academy of Sciences, Institut نفتي

Trudy, 2, 15 (Transactions of the Petroleum Institute, USSR, Academy of Sciences, Vol. 15) Moscow, Izdatel'no AN SSSR, 1958. 395 p. Errata slip inserted. 1,700 copies printed.

M. I. S. E. Serdyukov, Professor, Ed. of Publishing House: K. O. Myasnikov, Tech. Ed.: V. V. Golubova.

FOREWORD: The book is intended for scientists, engineers, and technicians in the petroleum industry.

CONTENTS: This collection of articles describes the results of studies on the chemistry and technology of petroleum and is conducted in the laboratories of the Petroleum Institute, Academy of Sciences, USSR, in 1956 and 1957. A new section is devoted to the synthesis and technology of petroleum products. The collection includes a list of articles. A list of petroleum products published by the associates of the Institute in 1956 and 1957 and a list of dissertations for the Doctor's and Candidate's degrees presented in 1956 and 1957 at open sessions of the Academic Council of the Petroleum Institute, Academy of Sciences, USSR, are given.

E. Kh. Izbashov, P. V. Korzunskaya, I. A. Masayev, and V. V. Shchokin. Changes in the Activity of Silica Gel in the Chromatographic Separation of Hydrocarbons 35

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